IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In Re:	Jeffrey A. Korn	Confirmation No:	9810
Application No:	09/707,710	Group:	2871
Filed:	November 7, 2000	Examiner:	Chowdhury, Tarifur Rashid
For:	System and Process for Post Alignment Polarization Extinction Ratio Compensation in Semiconductor Laser System		
Customer No.:	25263		
Attorney Docket No.	1029		

REPLY BRIEF UNDER RULE 1.93(b)(1)

VIA FACSIMILE: **571-273-8300**
Mail Stop Appeal Brief Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

Sir:

This is the Appellants' Reply to the Examiner's Answer of April 7, 2006 (unnumbered paper).

The following summarizes Applicants' central argument and some of the principle problems with the applied combination.

Claim 1 requires, *inter alia*, "after the step of securing the endface to the bench, detecting a polarization extinction ratio of light transmitted through the fiber from the semiconductor chip; and axially rotating the endface…to improve the polarization extinction ratio by deforming the mounting structure."

The basic approach of alignment after the fiber endface is secured to the bench is taught by the applied Flanders patent, which similarly relies on deformation of mounting structures. In fact, the Flanders patent represents previous work by the instant inventors.

The innovation of the present invention is the recognition that these deformable structures can be also used to axially-align polarization maintaining fiber.

Deformable mounting structure alignment is generally used to avoid problems associated with align-and-bond techniques as disclosed in Miles patent. The basic problem with align-and-bond is identified in the Miles patent, which problem is that the curing of the epoxy causes alignment shifts. See Miles at col. 5, line 39, *et seq.*.

It is Applicants' position that the present claimed invention would not have been obvious over the applied combination. This conclusion is supported by the fact that neither of the applied reference suggests: 1) axial alignment of the fiber endface after it is secured to the bench; or 2) such axial alignment using mounting structure deformation.

Miles teaches axial alignment before bonding at its col 5, beginning at line 30:

> nected with submount platform 140. Once alignment is completed, ferrule 110 is bonded to submount platform 140 using any suitable bonding material. The bonding material may be an epoxy or if the fiber is metallized it may be a solder. This secures fiber tip 160 in the correct

Moreover, Miles does not suggest the use of any deformable mounting structures. See Answer at page 4, first full paragraph.

Flanders does not teach that the mounting structures can be used for axial alignment.

The arguments of the Answer are premised on the fact that Flanders teaches deforming mounting structures to enhance PER. See Answer at page 6, line 2-4 citing col 4, lines 41-44 of Flanders. The cited portion of Flanders is as follows:

> of the tunable laser system 110. Preferably, deformable mounting structures are used to enable active or passive alignment during system manufacture or calibration after an in-service period.

Neither axial alignment nor PER is mentioned. Thus, the Answer is premises on a flawed understanding of the teachings of the applied references

The arguments of the Answer are further based on misconstructions of the claim language. Specifically, at page 7, line 14, "Examiner interpreted 'the fiber end is placed in the ferrule….That the center of the fiber and the ferrule coincide as nearly as possible , that the movement of the fiber off center when the fiber is rotated is as small as possible" as reading on the claim language securing". In short, the Answer interprets the claims as requiring securing fiber ends to ferrules. The claims, however, require "securing an endface of the optical fiber to the bench" (emphasis added, first clause of claim 6) and " after the step of securing the endface to the bench" (emphasis added, second clause of claim 6). Thus, the claims do not mention securing to the ferrule as apparently, or implicitly, argued in Answer. As a result, it is not clear why securement to the ferrule in the Miles patent has significance to a claim that requires securement to a bench.

To the extent the relevance of the Kuhara reference to the rejection has been set forth, it does not undermine the foregoing arguments.

In summary, the present situation seems analogous to that in Litton Systems, Inc. v. Honeywell, Inc., 87 F.3d 1559 (Fed. Cir. 1996). The suggestion for combination of the applied reference is strained--they use opposed methods of alignment, alignment structure deformation versus align-and-bond. And, the references simply do not contain many of the limitations in the claimed invention. See Litton at 1569.

For these reasons, Applicants-Appellants believe that the above-discussed claim, is not obvious in view of the applied references.

Should any questions arise, please contact the undersigned.

Respectfully submitted,

By /grant houston/
J. Grant Houston
Registration No.: 35,900
Tel.: 781 863 9991
Fax: 781 863 9931

Lexington, Massachusetts 02421
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